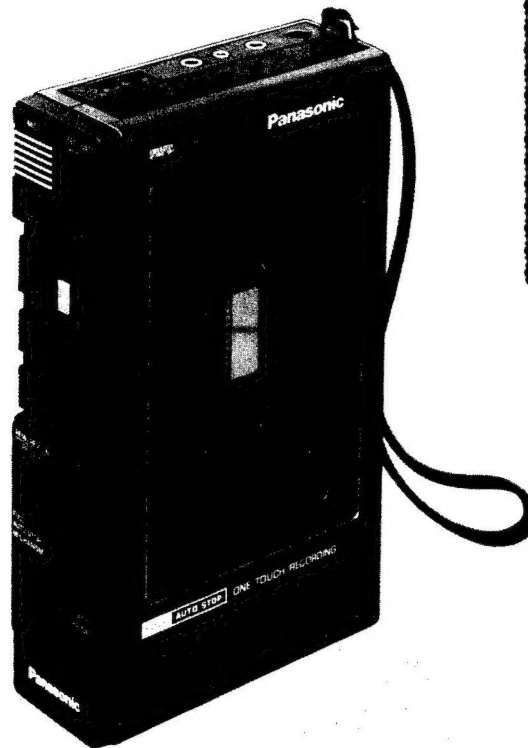


Service Manual

Mini Cassette
RQ-335
(Black Face)

AC/Battery Mini Cassette Recorder Features Tape Counter,
Full Auto-Stop, Cue and Review Controls



This is the Service Manual for the following areas.

- D** For All European areas except United Kingdom.
(Non-Included AC Adaptor Type)
- E** For All European areas except United Kingdom.
(Included AC Adaptor Type)
- N** For Asia, Latin America, Middle East and Africa, areas.

RQ-335 MECHANISM SERIES

Specifications

Power requirement:

- D** Battery; 6V (four R6 size dry batteries)
AC; with optional AC adaptor RP-667
- E** Battery; 6V (four R6 size dry batteries)
AC; with included AC adaptor RP-667
- N** Battery; 6V (four UM-3 size dry batteries)
Car/boat battery; with optional car/boat adaptor RP-917

Motor: Electrical governor motor

Power output: 600mW ... RMS (max.)

Frequency range: 70—10,000Hz

Recording system: AC bias

Operation: Push button one-touch recording with full auto-stop mechanism

Tape speed: 4.8cm/s

Program time: 1 hour with C-60 cassette tape

Fast forward and
rewind time: Approx. 140 seconds with C-60 cassette tape

Track system: 2-track monaural recording and playback

Input: MIC; sensitivity 0.25mV/applicable microphone
impedance 200—600Ω
DC IN; 6V

Output: Monitor; 8Ω
Remote; for start and stop/tat hand

Speaker: 5cm PM dynamic speaker

Dimensions: 9.7cm(W) × 15.8cm(H) × 3.8cm(D)

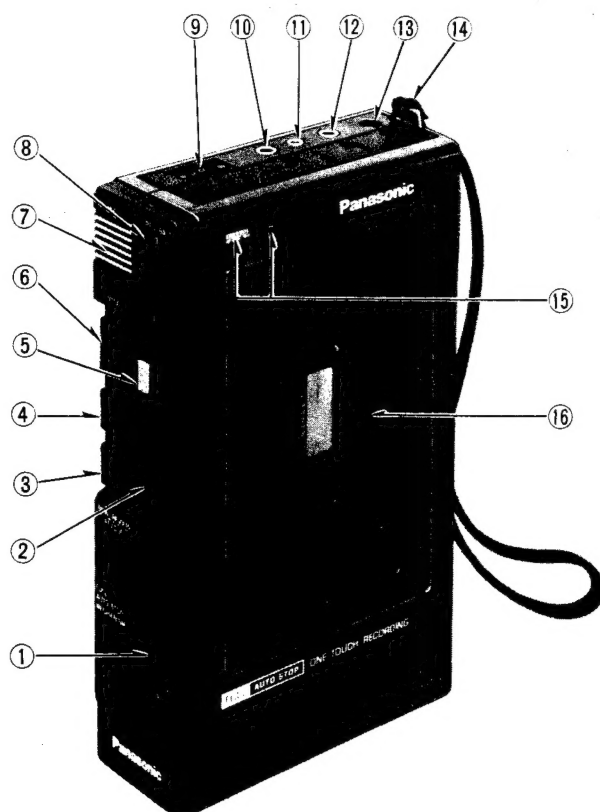
Weight: 530g, without batteries

Specifications are subject to change without notice.

CONTENTS

ITEM	PAGE
LOCATION OF CONTROLS AND COMPONENTS.....	1
DISASSEMBLY INSTRUCTIONS.....	2,3
ASSEMBLY INSTRUCTIONS.....	3
MEASUREMENT AND ADJUSTMENT METHODS	4
ELECTRICAL PARTS LOCATION	4
SCHEMATIC DIAGRAM	5
WIRING CONNECTION DIAGRAM	6
EXPLODED VIEWS	7,8
MECHANICAL PARTS LOCATION	9
CABINET PARTS	9

LOCATION OF CONTROLS AND COMPONENTS



- ① Pause/eject button
- ② Playback button
- ③ Fast forward/cue button
- ④ Rewind/review button
- ⑤ Record button
- ⑥ Stop button
- ⑦ Built-in microphone
- ⑧ Recording-indicator /battery-check lamp
- ⑨ Volume control
- ⑩ External microphone jack
- ⑪ Remote control jack
- ⑫ Monitor jack
- ⑬ External power adaptor jack
- ⑭ Handstrap
- ⑮ Tape counter and reset button
- ⑯ Cassette compartment cover

Fig. 1

DISASSEMBLY INSTRUCTIONS

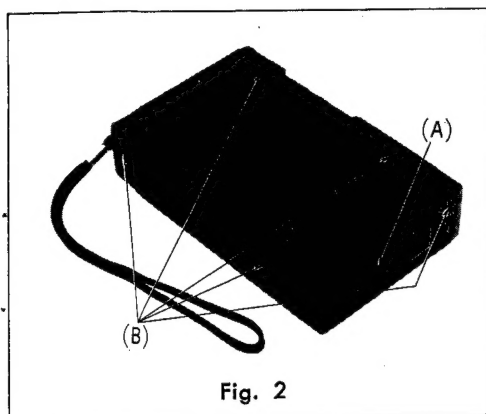


Fig. 2

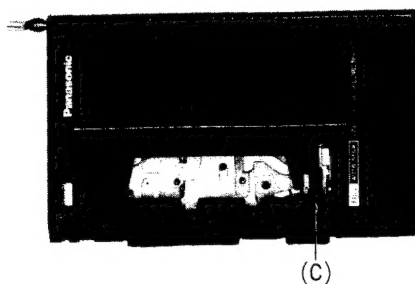


Fig. 3

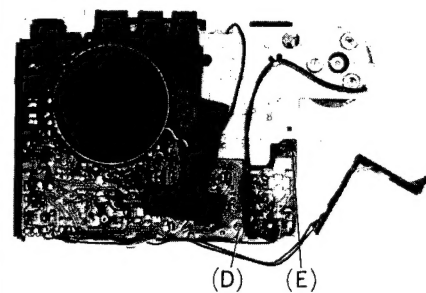


Fig. 4

Procedure	To remove —	Remove —	Shown in fig. —
1	Bottom case assembly	• Battery case (A) • 5 black screws (B)	2 2
2	Main case assembly and front panel assembly	• 1 black screw (C)	3
3	Main circuit board and motor speed control circuit board	• 1 screw (D) • 1 black screw (E)	4 4

MECHANISM SECTION

Removing the upper base plate assembly

1. Remove the fast forward/rewind lever spring (M20) (shown in fig. 5).
2. Remove the snap washer (M30) from the supply reel table assembly (M29), the supply reel table assembly and counter belt (M28) in that order.
3. Remove pause rod guide-B (M40) (shown in fig. 5).
4. The removal of 5 screws (a) allows the upper base plate assembly (M34) to come off (shown in fig. 5, 7).

NOTE:

Parts (b), (c), (d), (e), (f) and (g) shown in fig. 6 tend to come off when the mechanism is disassembled. Be careful not to lose them (shown in fig. 6).

(Be sure to disassemble the mechanism using care for the positions of these parts so that they can be properly reassembled.)

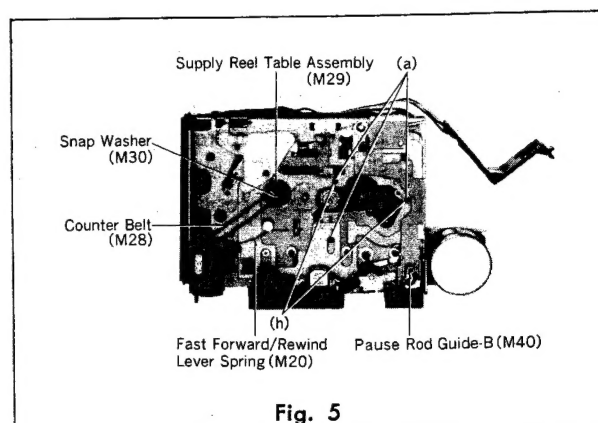


Fig. 5

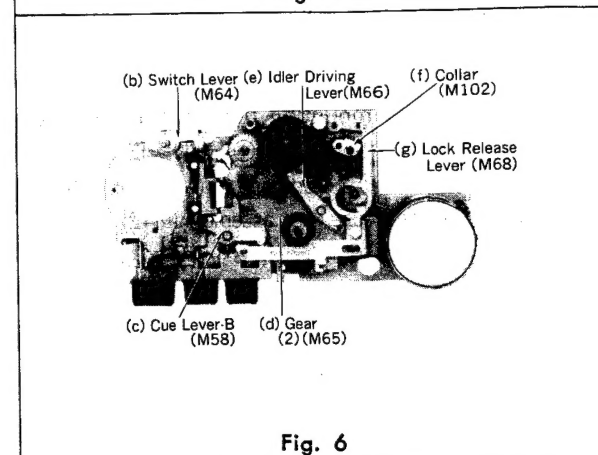
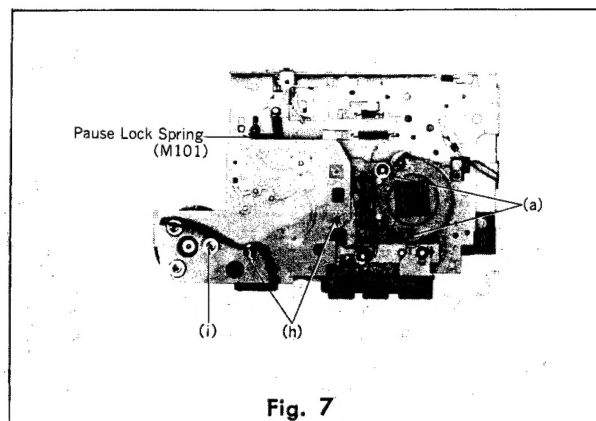


Fig. 6

Removing the lower base plate assembly and replacing the flywheel belt

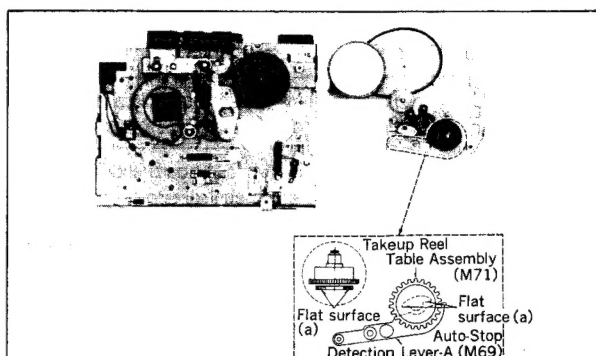
1. Remove the pause lock spring (M101) (shown in fig. 7).
2. The removal of 4 screws (h) allows the lower base plate assembly (M90) to come off (shown in fig. 5, 7).
3. The removal of screw (i) for mounting the motor allows the flywheel belt (M93) to come off (shown in fig. 7).


Fig. 7

ASSEMBLY INSTRUCTIONS

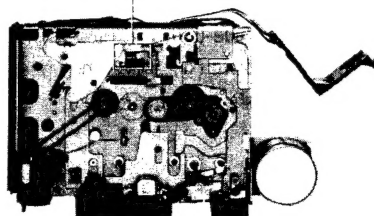
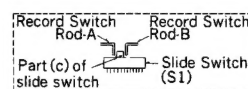
1. Precautions when mounting the lower base plate assembly

- * Mount the takeup reel table assembly (M71) so that auto-stop detection lever-A (M69) matches flat surface (a) on the rear of the assembly, as shown in fig. 8.


Fig. 8

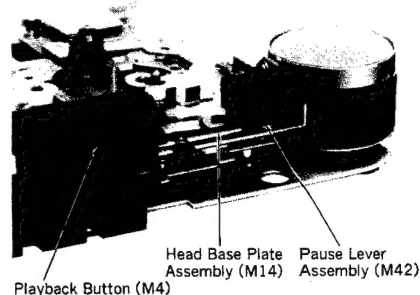
2. Precautions when mounting the printed circuit board

- * When mounting the printed circuit board on the mechanism unit, check that the part (c) of slide switch (S1) between the record switch rods A (M35) and B (M36) is properly positioned, as shown in fig. 9.


Fig. 9

3. Precautions when mounting the front panel assembly

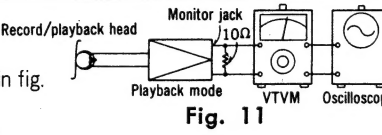

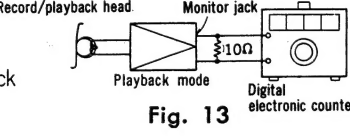
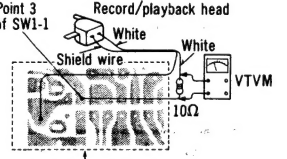
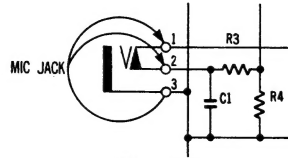
- * Be sure to mount the front panel assembly with the playback button (M4) pressed so that the head base plate assembly (M14) is prevented from running on the pause lever assembly (M42) (shown in fig. 10).


Fig. 10

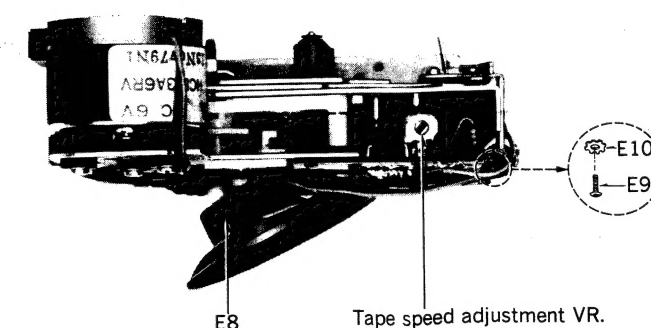
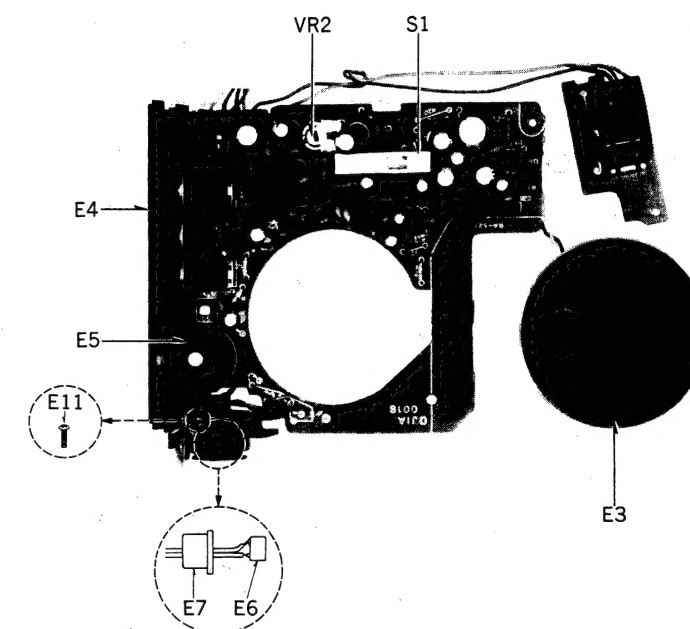
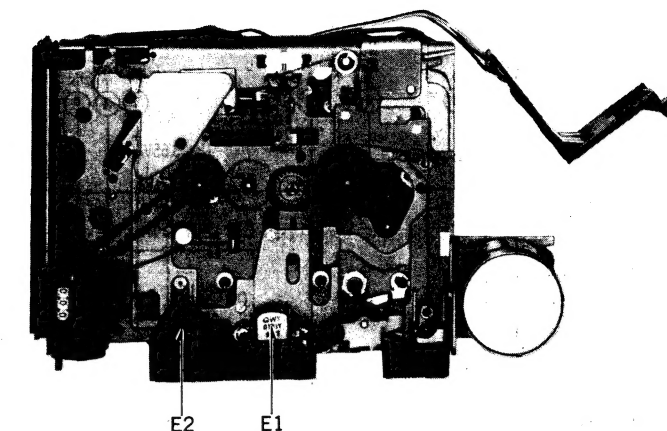
MEASUREMENT AND ADJUSTMENT METHODS

NOTES:

- Make sure heads are clean.
- Make sure capstan and pressure roller are clean.
- Judgeable room temperature: $20 \pm 5^{\circ}\text{C}$ ($68 \pm 9^{\circ}\text{F}$).
- Volume control: Maximum.

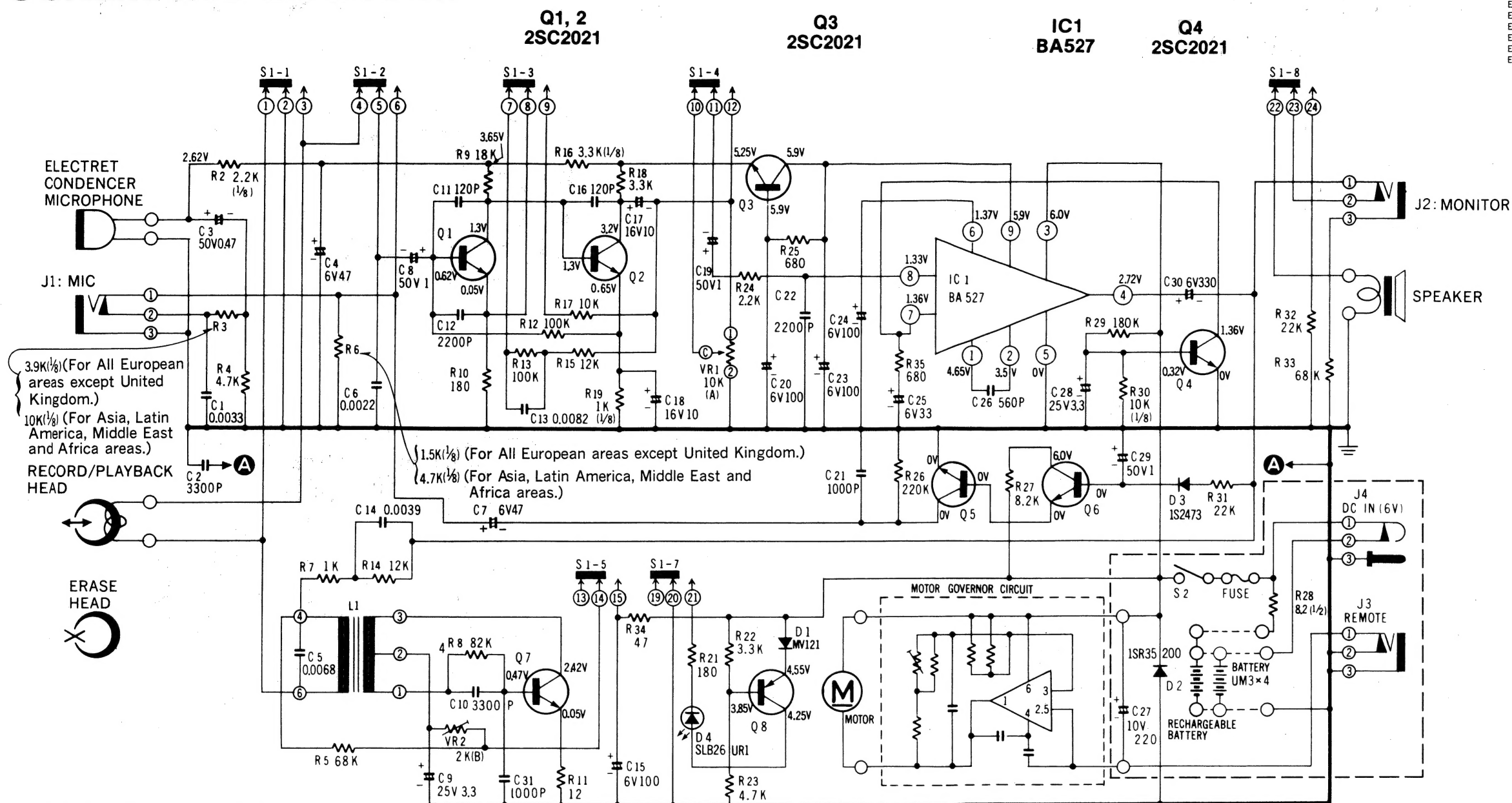
ITEM	MEASUREMENT & ADJUSTMENT
Head azimuth adjustment Condition: • Playback mode Equipment: • VTVM • Oscilloscope • Test tape (azimuth) ... QZZCFM • Resistor (10Ω)	<ol style="list-style-type: none"> 1. Test equipment connection is shown in fig. 11. 2. Playback azimuth tape (QZZCFM 8kHz). 3. Adjust record/playback head angle adjustment screw (A) in fig. 12 so that output level becomes maximum. 4. After adjustment lock head adjustment screw with lacquer.  <p>Fig. 11</p>  <p>Fig. 12</p>
Tape speed accuracy adjustment Condition: • Playback mode Equipment: • Digital electronic counter or frequency counter • Test tape ... QZZCWAT • Resistor (10Ω)	Tape speed accuracy <ol style="list-style-type: none"> 1. Test equipment connection is shown in fig. 13. 2. Playback test tape (QZZCWAT 3,000Hz), and supply playback signal to frequency counter. 3. Measure this frequency. 4. On the basis of 3,000Hz, determine value by following formula: $\text{Tape speed accuracy} = \frac{f - 3,000}{3,000} \times 100 (\%)$ where, f = measured value 5. Take measurement at middle section of test tape. <p>Standard value: $\pm 2.5\%$</p> <ol style="list-style-type: none"> 6. If measured value is not within standard, adjust tape speed adjustment VR (shown in electrical parts location), so that frequency becomes 3,000Hz.  <p>Fig. 13</p>
Bias current adjustment Condition: • Record mode Equipment: • VTVM • Resistor (10Ω)	<ol style="list-style-type: none"> 1. Disconnect the head lead wire (white) from the P.C.B (shown in fig. 14). 2. Connect 10Ω resistor in series between the lead wire (white) which was removed and the point 3 of SW1-1 on the P.C.B. (shown in fig. 14). 3. Connect MIC terminal 1 or 2 to earth terminal 3 (shown in fig. 15). 4. Place the unit into the record mode. 5. Read voltage on VTVM and calculate bias current by the following formula: $\text{Bias current (A)} = \frac{\text{Value read on VTVM (V)}}{10\Omega}$ <p>Standard value: $0.65 \pm 0.1 \text{ mA}$</p> <ol style="list-style-type: none"> 6. If measured value is not within standard value, make adjustment by turning VR2.  <p>Fig. 14</p>  <p>Fig. 15</p>

ELECTRICAL PARTS LOCATION



Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
ELECTRICAL PARTS					
E1	QWY0133Y	Record/Playback Head	E6	WM034Z	Built-in Microphone
E2	QWY2141	Erase Head	E7	QB61679	Microphone Rubber
E3	EAS5P10SD	Speaker	E8	QBGA0038	Speaker Rubber Cushion
E4	QJAA0009	Jack Board	E9	XSN2+4	Screw $\Phi 2 \times 4$
E5	QGT1483	Volume Knob	E10	XWC2B	Washer
			E11	XTN2+6B	Screw $\Phi 2 \times 6$

SCHEMATIC DIAGRAM

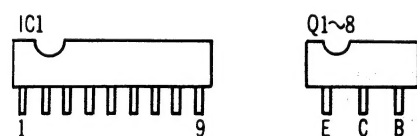


NOTES: RESISTORS
 ERD ... Carbon
 ERG ... Metal-oxide
 ERO ... Metal-film
 ERX ... Metal-film
 ERQ ... Fuse type metallic
 ERC ... Solid
 ERF ... Cement

CAPACITORS
 ECG ... Ceramic
 ECK ... Ceramic
 ECC ... Ceramic
 ECF ... Ceramic
 ECQ ... Polyester film
 ECQE ... Polyester film
 ECQF ... Polypropylene
 ECE ... Electrolytic
 ECE ... Non polar electrolytic
 ECQS ... Polystyrene
 ECS ... Tantalum

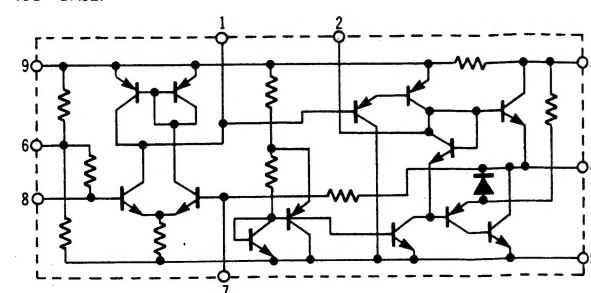
Ref. No.	Part No.	Ref. No.	Part No.
RESISTORS		VARIABLE RESISTORS	
R2	ERD10TJ222	VR1	EVLEAAT12A14
R3	ERD10TJ392	VR2	EVNKA00B23
*For All European areas except United Kingdom.		CAPACITORS	
R4	ERD10TJ103	C1	ECQM1H332KZ
*For Asia, Latin America, Middle East and Africa areas.		C2	ECKD1H332KB
R5	ERD25FJ472	C3	ECEA1H8R47
R6	ERD25TJ683	C4	ECEA1AS470
*For All European areas except United Kingdom.		C5	ECQM1H682KZ
R7	ERD10TJ152	C6	ECQM1H222KZ
*For All European areas except United Kingdom.		C7	ECEA1AS470
R8	ERD10TJ472	C8	ECEA1H8K10
*For Asia, Latin America, Middle East and Africa areas.		C9	ECEA2AS3R3
R9	ERD25FJ102	C10	ECKD1H332KB
R10	ERD25TJ823	C11	ECKD1H121KB
R11	ERD25TJ183	C12	ECKD1H222PF
R12	ERD25FJ181	C13	ECQM1H822KZ
R13	ERD25FJ120	C14	ECQM1H392KZ
R14	ERD25TJ104	C15	ECEA1AS101
R15	ERD25TJ123	C16	ECKD1H121KB
R16	ERD10TJ332	C17, 18	ECEA1CK100
R17	ERD25FJ103	C19	ECEA1H8K10
R18	ERD25FJ332	C20	ECEA1AS101
R19	ERD10TJ102	C21	ECKD1H102KB
R20	ERD25FJ181	C22	ECKD1H222PF
R21	ERD25FJ332	C23, 24	ECEA1AS101
R22	ERD25FJ472	C25	ECEA1CS330
R23	ERD25FJ222	C26	ECKD1H561KB
R24	ERD25FJ822	C27	ECEA1AS221
R25	ERD25FJ681	C28	ECEA1EK3R3
R26	ERD25TJ224	C29	ECEA50M1
R27	ERD25FJ822	C30	ECEA1AS331
R28	ERD50FJ8R2	C31	ECKD1H102KB
*For All European areas except United Kingdom.		TRANSISTORS	
R29	ERD25TJ184	Q1, 2, 3, 4, 5, 6, 7	2SC2021
R30	ERD10TJ103	Q8	2SA786
R31	ERD25TJ223	DIODES	
R32	ERD25FJ220	D1	MV121
R33	ERD25FJ680	D2	SM112
R34	ERD25FJ470	D3	MA161
R35	ERD25FJ681	D4	SLB26UR1
		INTEGRATED CIRCUIT	
IC1	BA527		

TERMINATIONS (SIDE VIEW)



EQUIVALENT CIRCUIT

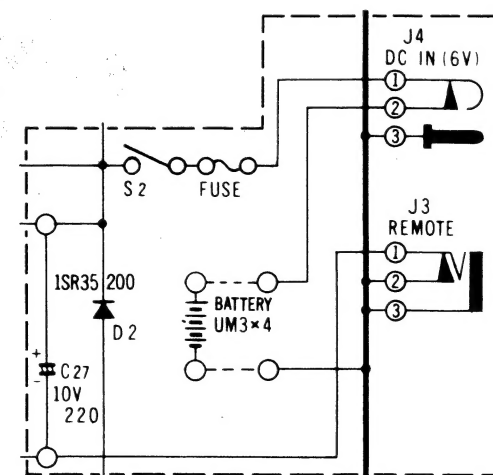
IC1 BA527



NOTES:

- S1-1 ~ S1-8 Record/playback select switch (shown in playback position).
- S2 Power ON/OFF switch (shown in OFF position).
- VR1 Volume control.
- VR2 Bias current adjustment VR.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise. K=1,000 Ω .
- Capacity are in microfarads (μ F) unless specified otherwise. P=Pico-farads.
- All voltage values shown in circuitry are under no signal condition and record mode with volume control at minimum position. For measurement, use VTVM.

*For All European areas except United Kingdom.



*For Asia, Latin America, Middle East and Africa areas.

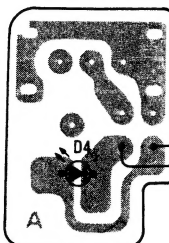
SPECIFICATIONS

Bias oscillation frequency	35 \pm 5 kHz
Standard recording input level	1 kHz: -72 \pm 4 dB MIC: -
Overall frequency response	150 Hz: -4 \pm 5 dB 1 kHz: 0 dB 6 kHz: -4 \pm 6 dB

WIRING CONNECTION DIAGRAM

MAIN CIRCUIT BOARD

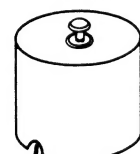
LED CIRCUIT BOARD



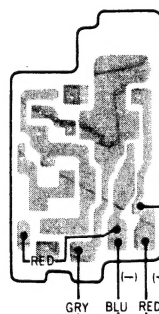
ELECTRET CONDENSER MICROPHONE



MOTOR

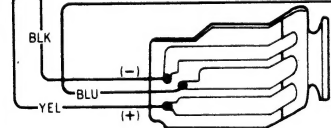


MOTOR GOVERNOR CIRCUIT BOARD



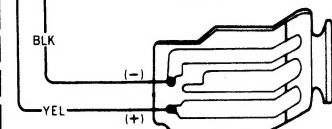
BATTERY CASE HOLDER

※For All European areas except United Kingdom.



BATTERY CASE HOLDER

※For Asia, Latin America, Middle East and Africa areas.



NOTES:

- The circuit shown in XXXX on the conductor is +B (bias) circuit.
- The circuit shown in XXXX on the conductor indicates printed circuit on the back side of the printed circuit board.
- Values indicated in XXXX are DC voltage between the ground and electrical parts.
- The voltage indicates are measured during record mode.

Q1 2SC2021LNF		
C	1.3V	
B	0.62V	
E	0.05V	

Q2 2SC2021LNF		
C	3.2V	
B	1.3V	
E	0.65V	

IC1 BA527		
1	4.65V	6 1.37V
2	3.5V	7 1.36V
3	6.0V	8 1.33V
4	2.72V	9 5.9V
5	0V	

Q4 2SC2021F		
C	1.36V	
B	0.32V	
E	0V	

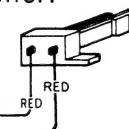
Q8 2SA786F		
C	4.25V	
B	3.85V	
E	4.55V	

Q3 2SC2021F		
C	5.9V	
B	5.9V	
E	5.25V	

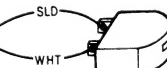
NOTES:

- BLK Black
- BLU Blue
- BRN Brown
- GRY Gray
- GRN Green
- L. BLU Light Blue
- NIL No Color Mark
- ORG Orange
- PNK Pink
- RED Red
- SLD Shield Wire
- VLT Violet
- WHT White
- YEL Yellow

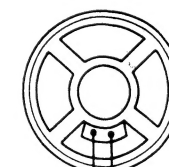
S2: POWER ON/OFF SWITCH



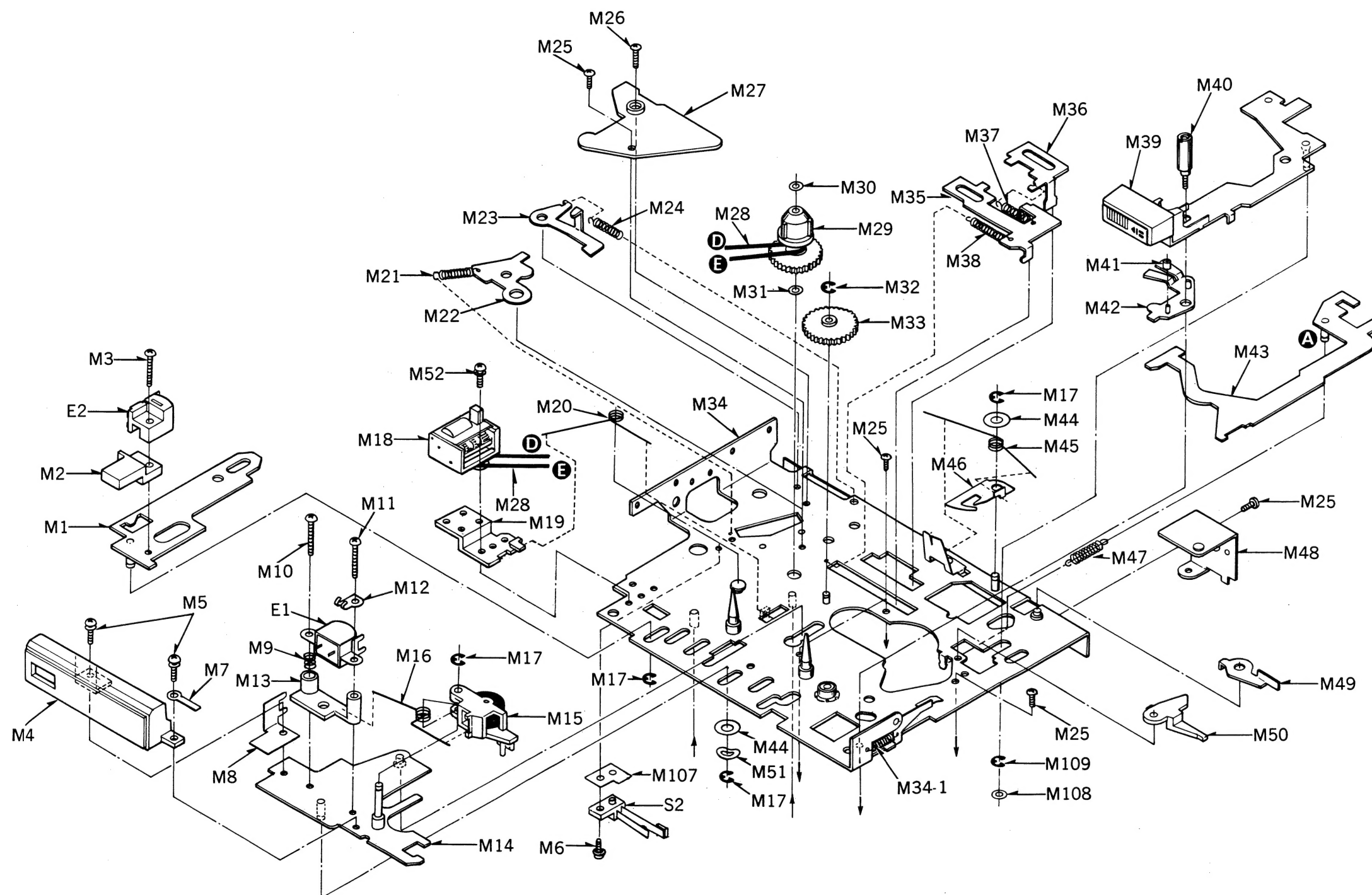
RECORD/PLAYBACK HEAD



SPEAKER



EXPLODED VIEWS



Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS		
M1	QXK2310	Erase Head Base Plate Assembly
M2	QGO1713	Record Button
M3	XSN2+10	Screw @2x10
M4	QGO1712	Playback Button
M5	XSN2+5	Screw @2x5
M6	XSN2+4	Screw @2x4
M7	QTD1163	Wire Clamper
M8	QMG0098	Tape Guide
M9	QBCA0008	Head Spring
M10	XSN2+12	Head Adjustment Screw
M11	XSN2+10	Screw @2x10
M12	QTD1287	Wire Clamper
M13	QMZ1247	Head Spacer
M14	QXK2307	Head Base Plate Assembly
M15	QXL1372	Pressure Roller Lever Assembly
M16	QBN1761	Pressure Roller Lever Spring
M17	XUC2FT	Stop Ring 2ø
M18	QDC0129	Tape Counter
M19	QMC1248	Counter Table
M20	QBN1767	Fast Forward/Rewind Lever Spring
M21	QBT1902	Record Rod Spring
M22	QML3623	Record Rod
M23	QML3622	Erase Safety Metal
M24	QBT1899	Erase Safety Metal Spring
M25	XQN16B3FZ	Screw @1.6x3
M26	XQN16B5FZ	Screw @1.6x5
M27	QMH2058	Rod Holder
M28	QDB0284	Counter Belt
M29	QXD0116	Supply Reel Table Assembly
M30	QBW2008	Snap Washer
M31	QBW2012	"
M32	XUC15FT	Stop Ring
M33	QDG1212	Gear (8)
M34	QXK2306	Upper Base Plate Assembly
M34-1	QBT1898	Eject Lever Spring
M35	QMR1857	Record Switch Rod-A
M36	QMR1858	Record Switch Rod-B
M37	QBT1904	Switch Rod Spring-A
M38	QBT1905	Switch Rod Spring-B
M39	QXR0617	Pause Rod Assembly
M40	QMP1776	Pause Rod Guide-B
M41	QMC0109	Collar
M42	QXL1371	Pause Lever Assembly
M43	QXR0620	Eject Rod Assembly
M44	XWE3A7	Washer
M45	QBN1768	Pause Lock Plate Spring
M46	QML3626	Pause Lock Plate
M47	QBT1897	Eject Rod Spring
M48	QXA1030	Circuit Board Retainer Assembly
M49	QML3625	Cassette Lid-up Lever
M50	QML3638	Auto Safety Lever
M51	QBP1519	Spring Washer
M52	XSN2+3	Screw @2x3
M53	QBN1765	Head Base Plate Spring
M54	QMR1852	Playback Rod
M55	QMR1854	Rewind Rod
M56	QGO1715	Rewind Button
M57	QBT1900	Playback Rod Spring
M58	QML3635	Cue Lever-B
M59	QBT1906	Rewind Rod Spring
M60	QMR1855	Fast Forward/Rewind Rod
M61	QGO1714	Fast Forward Button
M62	QMR1853	Fast Forward Rod
M63	QXH0330	Button Holder Assembly
M64	QML3637	Switch Lever
M65	QDG1206	Gear (2)

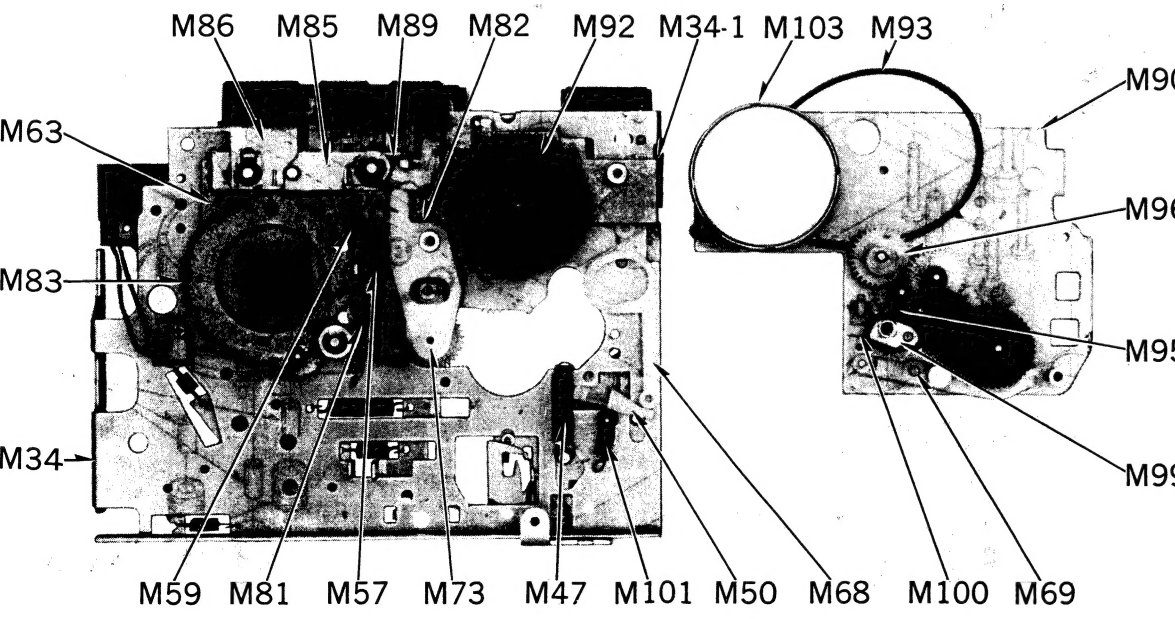
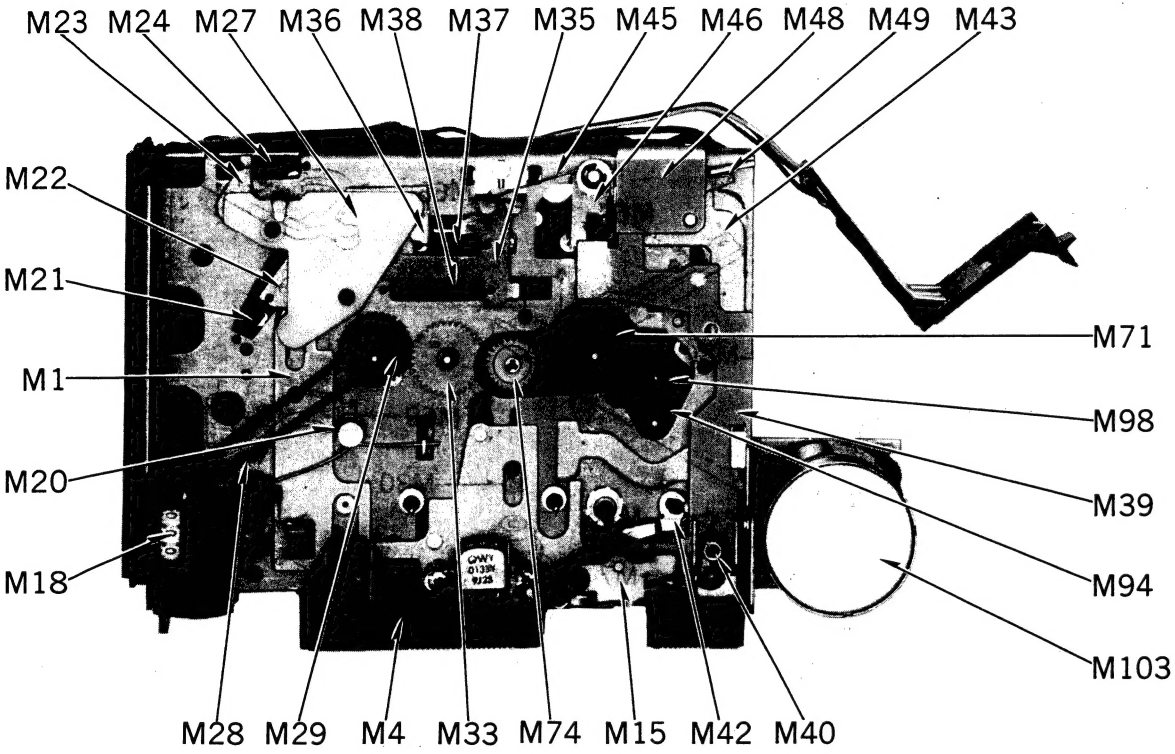
SPECIFICATIONS

This is a detailed exploded view diagram of a mechanical assembly, likely a motor or actuator. The diagram shows the relationship between various components, which are labeled with part numbers (M1 through M106) and assembly points (A, B, and C). The components include:

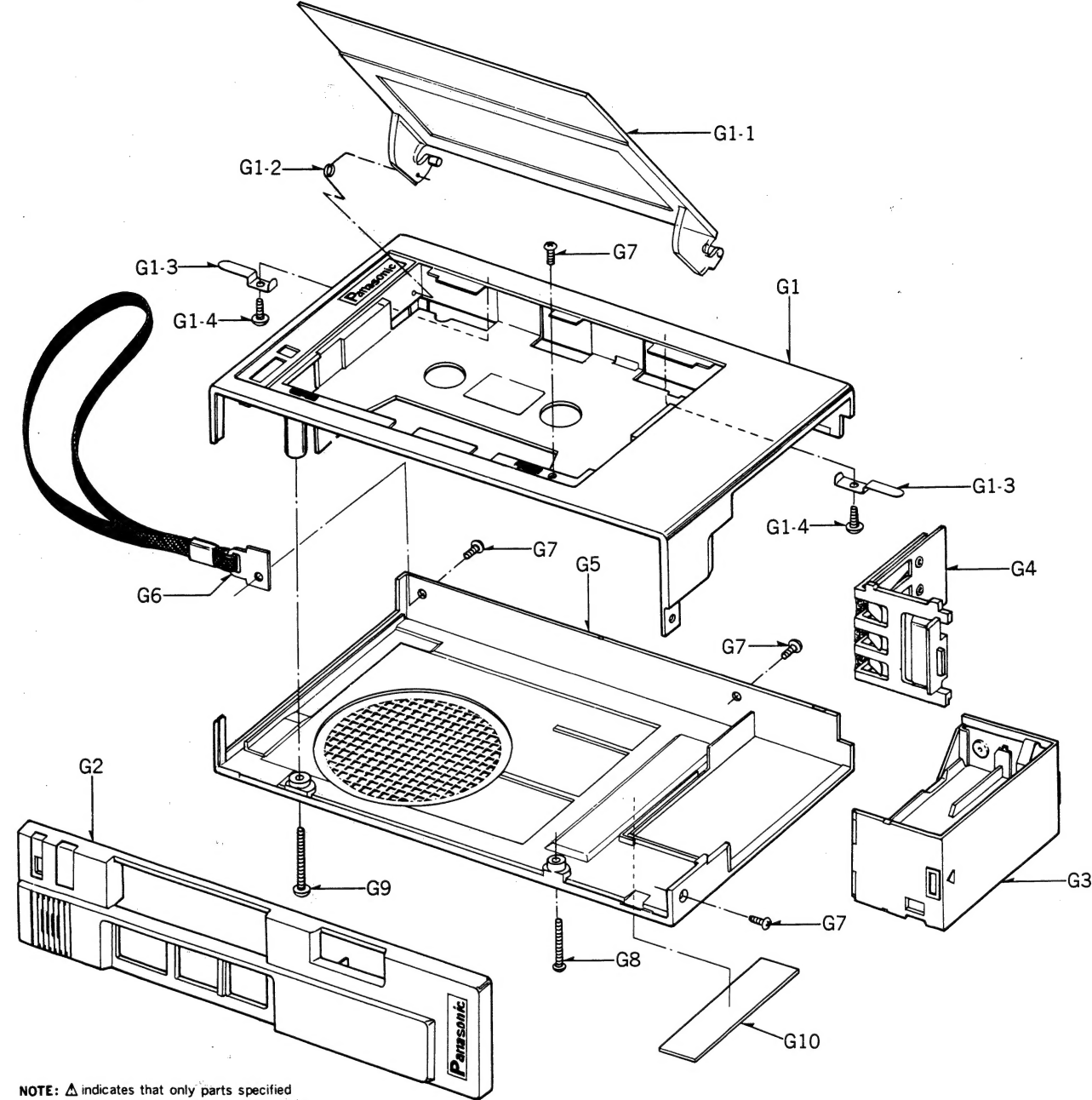
- Motor/Actuator (M103):** The main cylindrical component at the bottom right, with mounting feet (M104, M105).
- Gears and Shafts:** A series of gears (M65, M71, M72, M73, M74, M75, M76, M77, M78, M79, M82, M91, M92, M93, M94, M95, M96, M97, M98, M99, M100, M101, M102) and shafts (M106) forming a drive train.
- Structural Components:** Various plates, brackets, and housing parts (M1, M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M14, M15, M16, M17, M18, M19, M20, M21, M22, M23, M24, M25, M26, M27, M28, M29, M30, M31, M32, M33, M34, M35, M36, M37, M38, M39, M40, M41, M42, M43, M44, M45, M46, M47, M48, M49, M50, M51, M52, M53, M54, M55, M56, M57, M58, M59, M60, M61, M62, M63, M64, M65, M66, M67, M68, M69, M70, M71, M72, M73, M74, M75, M76, M77, M78, M79, M80, M81, M82, M83, M84, M85, M86, M87, M88, M89, M90, M91, M92, M93, M94, M95, M96, M97, M98, M99, M100, M101, M102, M103, M104, M105, M106).
- Assembly Points:**
 - A:** Located near the motor housing (M103).
 - B:** Located near the main drive shaft (M92).
 - C:** Located near the base plate (M90).

The diagram uses dashed lines to indicate the assembly path and alignment of the parts. The labels M1 through M106 are distributed throughout the diagram, with some parts having multiple labels indicating different views or configurations. The assembly points A, B, and C are marked with letters and arrows pointing to specific locations on the components.

MECHANICAL PARTS LOCATION



CABINET PARTS



NOTE: Δ indicates that only parts specified by the manufacturer be used for safety.

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
CABINET PARTS			ACCESSORIES			PACKINGS		
G1	QYMA0107H	Main Case Assembly	G8	XSN2+20BN	Screw Φ2×20	P1	QPN0099	Inside Carton
*For All European areas except United Kingdom.			G9	XTN26+26B	Tapping Screw Φ2.6×26	*For All European areas except United Kingdom.		
QYMA0111H		"	G10	QGS0050	Main Name Plate	(Non-Included AC Adaptor Type)		
*For Asia, Latin America, Middle East and Africa areas.			AC Adaptor			QPN0100		
G1-1	QKFA2007H	Cassette Lid	A1	RP667XE	"	*For All European areas except United Kingdom.		
G1-2	QBN7004	Cassette Lid Spring	*For All European areas except United Kingdom.			(Included AC Adaptor Type)		
G1-3	QBP1377	Lid Holding Spring	A3	QKFA0034	Carring Case	QPN0095		
G1-4	XTN26+6B	Screw Φ2.6×6	A2	XEH15A1B	Earphone	*For Asia, Latin America, Middle East and Africa areas.		
G2	QYPA0008	Front Panel Assembly	*For All European areas except United Kingdom.			P2	XZB16X25A02	Poly Bag
*For All European areas except United Kingdom.			A4	QFTC07L003NZ	Demonstration Tape	P3	QPAA0048	Cushion
QYPA0009		"	*For All European areas except United Kingdom.			*For All European areas except United Kingdom.		
*For Asia, Latin America, Middle East and Africa areas.			A5	QQT2783	Instruction Book	(Non-Included AC Adaptor Type)		
G3	QYDA0001	Battery Case Assembly	*For All European areas except United Kingdom.			QPA0051		
G4	QYQA0013	Battery Case Holder	(Non-Included AC Adaptor Type)			*For All European areas except United Kingdom.		
*For All European areas except United Kingdom.			QQT2784			(Included AC Adaptor Type)		
QYQA0012		"	*For All European areas except United Kingdom.			QPA0050		
*For Asia, Latin America, Middle East and Africa areas.			(Included AC Adaptor Type)			*For Asia, Latin America, Middle East and Africa areas.		
G5	QKMA0041H	Bottom Case Assembly	QQT2745					
G6	QYH0090	Hand Strap	*For Asia, Latin America, Middle East and Africa areas.					
G7	XSS2+6BV	Screw Φ2×6						